



HIGH-PRESSURE CENTRIFUGAL BLOWER Data Sheet:

24590-HLW-MAD-HOP-P0038

MR No

24590-QL-MRA-MACS-00002

Plant Item No.

See Note 11

R10378308

Rev No.

0

ISSUED BY
RPP-WTP PDC

1	Project	RPP-WTP	Bldg./Room #	HLW / H-0429	Manufacturer	*
2	Project No	24590	Supporting	DELETED	Manufacturer	*
3	Site:	DOE Hanford	Calculation		Part No:	
4	Safety Class	SDS	Supporting	24590-HLW-M6-HOP-P0008	Quantity Required	6
5	Seismic Category	SC-III	Drawings	24590-HLW-M6-HOP-P20008	Quality Level	QL2
6	System No.	HOP	System Desc	24590-HLW-3YD-HOP-00001		
7	Description: HLW Offgas Stack Extraction Fan					
8						

9 DESIGN TEMPERATURES

10	Zone Design Temperature	Summer °F	95			
11	Indoor Design Temperature	Minimum °F	59	Maximum °F	95	Relative Humidity 10% (min)
12						
13	Contamination Classification Area	DELETED	Elevation:	661	Ft above MSL	

14 DESIGN CONDITIONS

15	Design Fan Capacity (max)	1785	ACFM	Inlet Air Temperature °F at max flow	276	
16	External Static Pressure at max flow	82	inches WC	Suction Air Density at max flow	0.041	lbs/ft ³
17	Design Fan Capacity (normal)	1110	ACFM	Inlet Air Temperature °F at normal flow	248	
18	External Static Pressure at normal flow	60	inches WC	Suction Air Density at normal flow	0.047	lbs/ft ³
19	Design Fan Capacity (min op)	590	ACFM	Inlet Air Temperature °F at min operating flow	227	
20	External Static Pressure at min op flow	35	inches WC	Suction Air Density at min operating flow	0.051	lbs/ft ³
21	Design Fan Capacity (melter idle)	545	ACFM	Inlet Air Temperature °F at (melter idle) flow	142	
22	External Static Pressure at(melter idle)	20	inches WC	Suction Air Density at(melter idle) flow	0.058	lbs/ft ³
23	Total Static Pressure (Max)	*	inches WC	Fan Inlet Pressure range	11.7 to 14.1	psia
24	Minimum Fan Efficiency	*	%	Fan Discharge Pressure range	14.4 to 14.5	psia
25	Fan Operating Speed	*	RPM	Fan Motor Operating Weight	*	pounds
26	Power at Operating Conditions	*	BHP	Power at Inlet Temperature	*	BHP
27	Assembly wt -Mtr Fan Base	*	pounds	Max Temp & Rate of Rise for Mech. Design	350 / 30	°F / °F/sec

28 CONSTRUCTION

29	Design Fan Manufacturer	*	Design Fan Model Number	*
30	AMCA Drive Arrangement	8	AMCA Inlet Box Position	*
31	AMCA Motor Position	Direct Drive	AMCA Discharge	Upblast
32	AMCA Rotation	CW (See Note 9)	Fan Scroll Type	*

33 FAN WHEEL

34	Fan Wheel Type	See Note 4	Fan Shaft Diameter	*
35	Design Wheel Diameter	*	Actual Wheel Diameter	*
36	Design Wheel Width	*	Actual Wheel Width	*
37	Design Fan RPM	*	Actual Fan RPM	*
38	Design Brake Horsepower	*	Actual Brake Horsepower	*
39	Fan Bearing Type	*	Fan Bearing Designator	*

40 FAN MATERIALS

41	Housing	S/S 316L	Fan Wheel	S/S 316L
42	Evase	N/A	Mounting Frame	S/S 316L
43	Shaft	S/S 316L	Inlet Damper	N/A
44	Inlet Vane	N/A	Discharge Damper	N/A
45	Inlet Screen	N/A	Bearing Special Features	N/A
46	Mechanical Coupling	Falk Flex-Type (or equal)	Safety Guards Types	OSHA Compatible

47 FAN ACCESSORIES

48	Flanged Inlet	Yes	Flanged Inlet Dimensions	*
49	Flanged Discharge	Yes	Flanged Discharge Dimensions	*
50	Flanged Discharge Evase	No	Flanged Evase Dimensions	N/A
51	Split Housing	Yes	Split Housing Type	*
52	Inlet Box	No	Inlet Box Type	N/A
53	Inlet Damper	No	Inlet damper Type	N/A
54	Inlet Damper Motor	No	Inlet Damper Mfr and Model No	N/A
55	Inspection Door	Yes	Inspection Door Size	*
56	Drain Connection	Yes	Drain Connection Size	See Spec.
57	Gas Tight Shaft Seals	Yes	Gas Tight Seal Type	*



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9 FAN ACCESSORIES (continued)

10	Isolation Base	No	Isolation Base Type	N/A
11			Isolation Base Manufacturer	N/A
12	Isolation Springs	No	Isolation Springs Mfr and Model No	N/A
13			Isolation Springs Minimum Diameter	N/A
14			Isolation Springs Deflection	N/A
15			Isolation Springs Restraint Features	N/A
16	Flexible Connection Inlet	Yes		
17	Flexible Connection Inlet Type	*		
18	Flexible Inlet Connection Material	*		
19	Flexible Connection Manufacturer and Model No	*		
20	Flexible Connection Outlet	Yes		
21	Flexible Connection Outlet Type	*		
22	Flexible Outlet Connection Material	*		
23	Flexible Connection Manufacturer and Model No	*		
24	Inlet Screen	No		
25	Inlet Screen Features	N/A		
26	Variable Speed Drive	Yes		
27	Special Drive Features	ASD to operate motor from 30% to 100% of required RPM within a 30 second time frame (max)		
28	Fan Pedestal	Yes		
29	Fan Pedestal Description	Common mounting base for fan, motor, and bearings		
30	Insulation Studs	No	Insulation thickness	N/A
31	Silencer	*		

32 MOTOR AND DRIVE REQUIREMENTS

(See Motors Data sheet and ASD Data sheet)

Notes

- * denotes data to be provided / verified by vendor.
- N/A denotes "Not Applicable".
- TBD denotes "To Be Determined" at a later date.
- The impeller shall be anti-surge design developing continuously rising SP from free delivery thru shutoff.
- Bounding dimensions not to exceed 45" w x 60" h x 105" l (Blower, Motor and Baseplate).
- Deleted
- See Specification 24590-WTP-3PS-MACS-T0004 for additional requirements.
- Motor horsepower to be provided by vendor. Assume "cold-gas" conditions (59 °F) at startup.
- Rotation is listed as viewed from drive side.
- Deleted.
- Driven Equipment / Motor / ASD relationship is as follows:

Fan Tag Number	Motor Tag Number	ASD Tag Number
HOP-FAN-00008A	HOP-MTR-00008	HOP-ASD-00002A
HOP-FAN-00008B	HOP-MTR-00009	HOP-ASD-00002B
HOP-FAN-00008C	HOP-MTR-00010	HOP-ASD-00002C
HOP-FAN-00010A	HOP-MTR-00014	HOP-ASD-00004A
HOP-FAN-00010B	HOP-MTR-00015	HOP-ASD-00004B
HOP-FAN-00010C	HOP-MTR-00016	HOP-ASD-00004C
- Contents of this document are Dangerous Waster Permit affecting.



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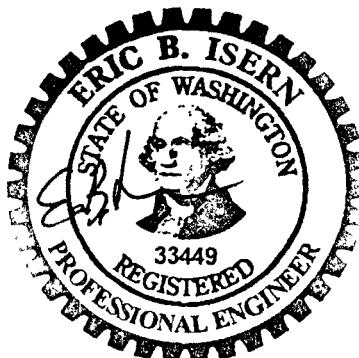
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10						
11						
12	Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at the U.S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts, that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.					
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9/15/04

EXPIRES: 07/28/05